WHAT IS CLAIMED IS:

1. A method of performing printhead maintenance firing in an ink jet printer that has a printhead carrier that carries an ink jet printhead, said ink jet printer having a waste ink receptacle, comprising the steps of:

decelerating said printhead carrier from a first velocity after printing print data; and

controlling a firing of said printhead during said decelerating in accordance with maintenance data so that ink droplets ejected from said printhead during said decelerating are received by said waste ink receptacle.

2. The method of claim 1, said maintenance data being appended to said print data for a particular printing swath pass for serialization to said printhead.

3. The method of claim 2, wherein a timing segment is interposed between said print data and said maintenance data.

4. The method of claim 3, further comprising step of calculating the data length of said timing segment based on a length of said print data.

5. The method of claim 3, wherein said timing segment is composed of zeros data.

6. The method of claim 1, wherein said waste ink receptacle is positioned at a fixed location.

7. The method of claim 6, wherein a length (L) of said waste ink receptacle, which is positioned to begin at a predetermined location, is determined the formula: $L = [(Dgap / Vd) \times Vc] + (N/Dpi)$, wherein:

Dgap is a gap distance from said printhead to a surface of said waste ink receptacle;

Vd is a droplet velocity of ink droplets ejected from said printhead;

Vc is a carrier velocity of said printhead carrier;

N is the number of spit fires per nozzle; and

Dpi is the resolution.

8. The method of claim 7, said predetermined location being outside a print zone of said ink jet printer, and in relation to an edge of a sheet of print media.

9. The method of claim 7, said print data being printed at said carrier velocity Vc of said printhead carrier.

10. The method of claim 1, said waste ink receptacle being positioned at a predetermined location outside a print zone of said ink jet printer, and positioned in relation to an edge of a sheet of print media.

11. A method of performing printhead maintenance firing in an ink jet printer that has a printhead carrier that carries an ink jet printhead, said ink jet printer having a waste ink receptacle, comprising the steps of:

receiving print data in a form of print data segments;

generating a timing segment and a maintenance segment;

appending said timing segment and said maintenance segment to said print data segments;

accelerating said printhead carrier to a first velocity;

serializing said print data segments, said timing segment, and said maintenance segment to said printhead;

decelerating said printhead carrier during said maintenance segment; and

controlling a firing of said printhead in accordance with data in said maintenance segment so that ink droplets ejected from said printhead during said decelerating are received by said waste ink receptacle.

12. The method of claim 11, said timing segment being generated by the step of calculating a data length of said timing segment based on a length of said print data segments.

13. The method of claim 11, wherein said timing segment is composed of zeros data.

14. The method of claim 11, said printing data segments and said timing segment being serialized to said printhead when said printhead carrier is moving at said first velocity.

15. The method of claim 11, wherein said waste ink receptacle is positioned at a fixed location.

16. The method of claim 11, wherein a length (L) of said waste ink receptacle, which is positioned to begin at a predetermined location, is determined the formula: $L = [(Dgap / Vd) \times Vc] + (N/Dpi)$, wherein:

Dgap is a gap distance from said printhead to a surface of said waste ink receptacle;

Vd is a droplet velocity of ink droplets ejected from said printhead;

Vc is a carrier velocity of said printhead carrier;

N is the number of spit fires per nozzle; and

Dpi is the resolution.

17. The method of claim 16, said predetermined location being outside a print zone of said ink jet printer, and in relation to an edge of a sheet of print media.

18. The method of claim 11, said waste ink receptacle being positioned at a predetermined location outside a print zone of said ink jet printer, and positioned in relation to an edge of a sheet of print media.